

# Baseline Salinity Modeling Assumptions

Presented to:

Economic and Social Impact Study  
Committee

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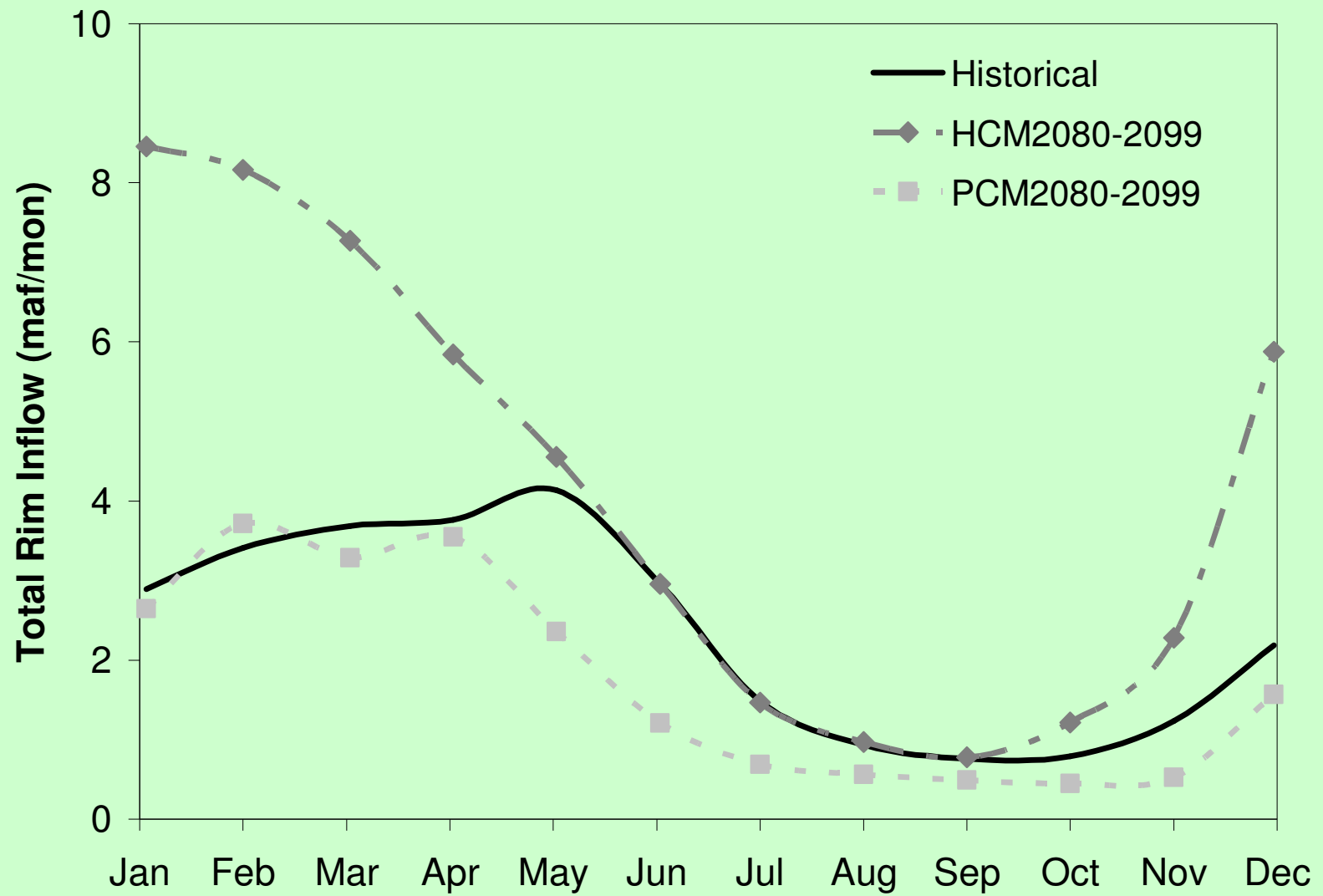
# Main Topics

- Salinity load and Impact projections
- Agricultural Trade and Policy
- Central Valley Salinity Policies
- Agricultural Production Modeling Assumptions

# Salinity load and Impact projections

- The Natural and Anthropogenic sources of salinity can be separated given hydrologic base flow calculations.
- Saline Irrigated land projections.
  - Currently in proportion to irrigated output
  - Can be projected based on Shoups & Hopmans' PNAS model, timing is not certain.
- Hydrograph and climate change. A modified hydrograph for surface water supplies used in the Calvin climate change study can be used to define the two extremes of inflow.

## Monthly Mean Rim Inflows for the Climate Scenarios



# Agricultural Trade & Policy

- Dollar exchange rate—Given the effect of the deficit on the exchange rate and CBO projections—it's not at all clear that the dollar rate will increase. A low \$ is the most conservative policy for salinity projections—maximizes export crop production.
- 2007 Farm Bill.. Use committee input to try and assemble a coherent set of assumptions— current projections are uncertain- see Sumner article.

# Central Valley Salinity Policies

- Based on the Policy group discussion, it seems that salinity guidelines will vary with location
- We need help in interpreting how TMDLs will be implemented.

# Agricultural Production Modeling Assumptions

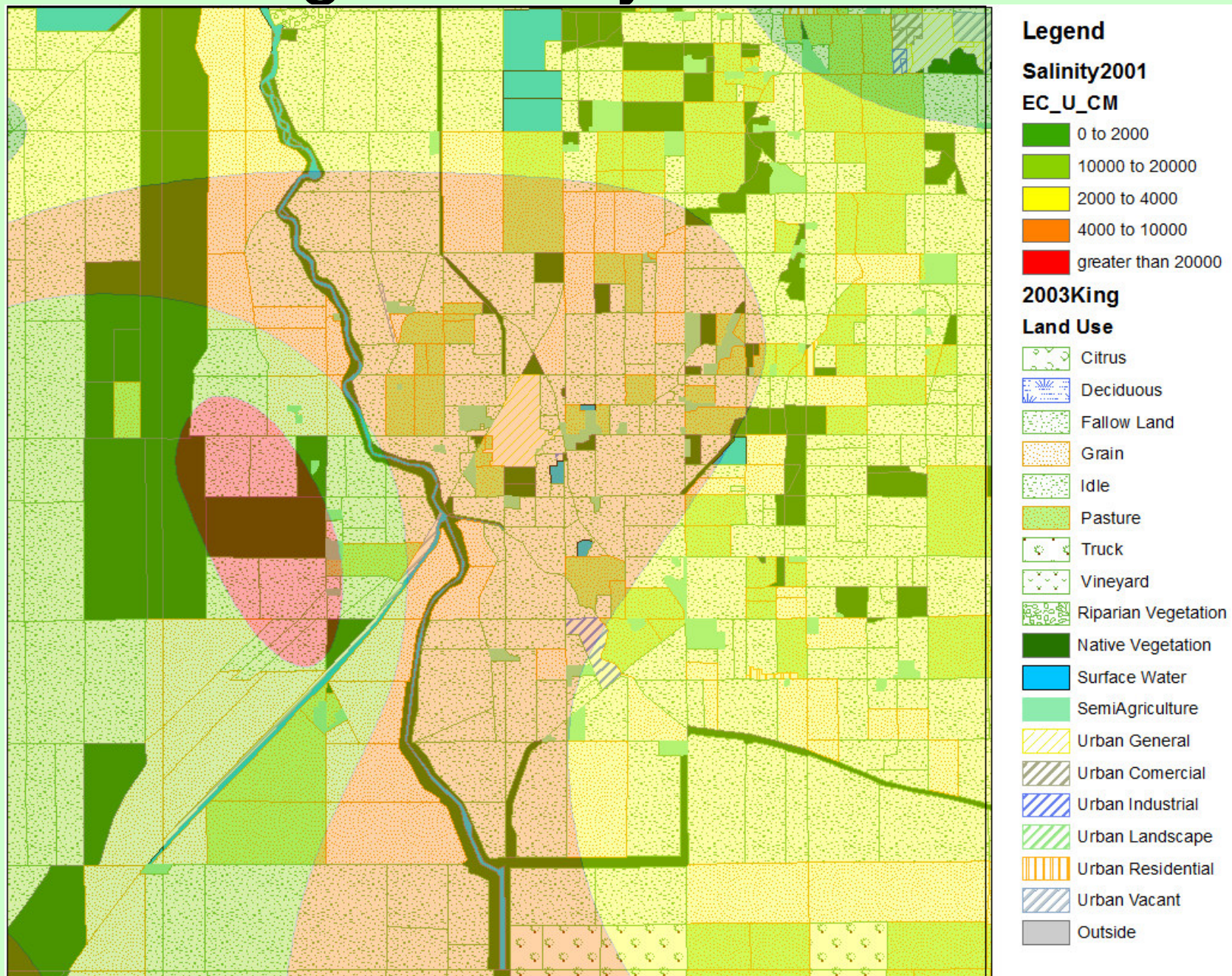
- Irrigated land retirement due to salinity—We plan to price out IFDM systems, and incorporate them in a run that is based on this new technology.
- The impact of SJR restoration flows- what do we assume about implementation
- Alternative rates of salinity build up will be based on irrigated acres, climate change, and models. Timelines to 2030 or 2035

# Regionalization of Impacts

- Current data sets and models of urban use, animal production, irrigated production and processing are very disaggregated.
- Need input on the optimal level of regionalization, and excess detail



# Kings County zoomed



# Delta Export Assumptions

- Given the current uncertainty over Delta infrastructure what should be assumed about.
- Average export levels to the valley
- Reliability of exports
- Quality of exports
- Alternatives-
  - Improvement of current system
  - Development of an alternative Delta export facility

# Conclusions

- Committee input into all these assumptions will affect:
  - The impacts shown in the report
  - Acceptability of the report
  - Readability of the report